

# THE SPECIES OF CHALCIDOIDEA DESCRIBED FROM NORTH AMERICA NORTH OF MEXICO BY FRANCIS WALKER (HYMENOPTERA)

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## SYNOPSIS

The 72 species of Chalcidoidea described by Francis Walker from North America north of Mexico are reviewed and full information is given on their type-material. The species are assigned, where possible, to their currently correct genera, and synonymies are given. Twenty-six specific names are newly synonymized. Sixty-three lectotypes are newly designated, of which eight are for other authors' species here synonymized with those of Walker.

## INTRODUCTION

FRANCIS WALKER described 72 species of Chalcidoidea from North America north of Mexico. Of these, 59 were described from collections made by E. Doubleday at St John's Bluff, Florida. Another species, described from 'East Florida, Doubleday,' may also have been from St John's Bluff, and another, from 'North America, Doubleday' might have been from St John's Bluff. Five other species were described from specimens collected by G. Barnston at St Martin's Falls, Albany River, Ontario, Canada. Two species were from collections John Abbot made in Georgia. There was one species each from the collections of W. S. M. D'Urban in Canada and R. Forster in Ohio. One species was described from a specimen reared in

England from a pine cone from California, and another was from a specimen taken by an unknown collector 'near New York.'

St John's Bluff, where Doubleday collected the bulk of these Walker species, is a locality still preserved, in Duval County, Florida. It is located on the south bank of the St John's River and is now contained in the Fort Caroline National Memorial. This is approximately 12 kilometres east of the city of Jacksonville, and about 8 kilometres inland from the Atlantic Ocean. It lies between  $81^{\circ} 29'$  and  $81^{\circ} 30' W$  at  $30^{\circ} 23' 15'' N$ . The bluff itself rises 12.5 metres from the river bank, just east of the remains of Fort Caroline. It is approximately 77.5 metres from the river bank to the crest of this bluff, and the bluff extends approximately 930 metres from east to west. The bluff and the immediately adjacent land has a vegetative cover. Approximately 310 metres south of the crest of St John's Bluff the land becomes marshy.

Barnston collected his specimens at St Martin's Falls on the Albany River, in Ontario, Canada. This locality is often cited as Hudson Bay, but it is actually far inland from Hudson Bay. St Martin's Falls, which was at one time a Hudson Bay Company post, is on the Albany River some 80 kilometres upstream from the confluence with the Ogoki River. This is at about  $51^{\circ} 30' N$ ,  $86^{\circ} 30' W$ , approximately 440 kilometres upstream from Fort Albany on James Bay.

The balance of the species Walker described from North America north of Mexico are from scattered localities about which no further data are available.

In this paper each Walker species is assigned, as far as possible, to its currently correct genus, and synonymies are given. In the few cases where a Walker name is synonymized with an earlier name (either of Walker or of another author) it is dealt with under the valid name. The species are listed separately for each family and, within each family, they are listed in alphabetical order of the valid specific name.

Of the 72 Walker species, lectotypes for 4 species have already been designated, and the types of 4 others are missing. The types of all the rest are in the British Museum (Natural History) (hereafter abbreviated to BMNH). In this paper I have designated lectotypes for 63 species. The circular colour-coded BMNH type-labels have been added to all the Walker types examined, purple for lectotypes and blue for paralectotypes. Each lectotype bears in addition a label stating 'LECTOTYPE [name of species] designated B. D. Burks 1975'. I refrained from designating a lectotype for one species because it is now represented in the collection by a single, very poor specimen. There is a chance that a better type-specimen of this species will be found eventually. I give here all the data that are on the Walker types. Some specimens have no label data, others carry only the Walker species name.

In this paper I have also designated lectotypes for several species described by other authors, the types of which are in the U.S. National Museum (hereafter abbreviated to USNM). This was required because those species, represented by syntypes, are here synonymized under Walker species.

In general the Walker types of North American Chalcidoidea are quite well preserved, although all of them are over a century old, and most of them are about

140 years old. There has not been so much colour change in them as I would have expected. Their colours are not greatly different from the colours of specimens of the same species that I have seen that were collected recently.

These Walker types were probably all originally pinned into the BMNH collection, either mounted on cards and with the wings spread, or mounted on small pins that were set on small cards. About 1900 the entire collection was repinned and relabelled by C. O. Waterhouse. He added name labels to the type-specimens; on the reverse side of each label there is the statement 'Stood under this name in old B. M. Coll. V. Waterhouse.' There is every indication that this relabelling was done with the greatest care, but in many species the Waterhouse label does not give the name exactly as it was in the original description. This may be due to the fact that the labels were changed in the old collection during the approximately 55 years the specimens were there, or the name labels in the collection may not have agreed with the published names from the beginning. At any rate it would have been better to have preserved all of Walker's original name labels, but this was done for only a few species.

About 1930 nearly all the Walker types of Chalcidoidea were remounted onto card points by G. B. Thompson. The results were unfortunate for many species. Several of these types have the legs and wings entangled in the mounting medium. It is difficult to make out the characters of the appendages in these types. In others an excessive amount of the mountant was used. However, it has been possible to remount some of these successfully.

#### ACKNOWLEDGEMENTS

I am greatly indebted to Dr Z. Bouček, Commonwealth Institute of Entomology, for giving me his opinions on several of these Walker type-specimens, the condition of which made placement difficult. Dr H. V. Weems, Florida Department of Agriculture and Consumer Services, Gainesville, kindly furnished information about St John's Bluff. Dr O. Peck, formerly of the Canada Department of Agriculture, Ottawa, provided information about St Martin's Falls.

### EULOPHIDAE

#### *Notanisomorpha calavius* (Walker) **comb. n.**

*Eulophus Calavius* Walker, 1847 : 24, ♀, ♂.  
*Hemiptarsenus calavius* (Walker) Peck, 1951 : 428.

**TYPE-MATERIAL.** There are two female and one male syntypes of this species in the BMNH collection on card points. The first specimen in the series bears the label 'Calavius' in Walker's hand. I designate the second female specimen, labelled 'B.M. Type Hym. 5. 2268', as **LECTOTYPE**. Described from St John's Bluff, Florida.

REMARKS. Although this is a very distinctly marked species, it does not seem to have been redescribed since Walker's time. There is a series of specimens from Maryland in the USNM collection. These specimens had long been thought to represent an undescribed species.

DISTRIBUTION. Maryland, Florida.

### *Necremnus cyriades* (Walker)

*Eulophus Cyriades* Walker, 1847 : 25, ♂.

*Necremnus cyriades* (Walker) Peck, 1951 : 428.

TYPE-MATERIAL. One male specimen on a card point is in the BMNH collection; it is in poor condition. It is labelled 'B.M. Type Hym. 5. 2269' and 'Cyriades' in Walker's hand. I designate it LECTOTYPE. The right antenna is broken off beyond the pedicel, but the left antenna still retains funiculars 1 to 3 which bear long branches. Described from St John's Bluff, Florida.

REMARKS. There is a single male specimen of this species from Washington, D.C. in the USNM collection. This is the one mentioned by Chittenden (1901 : 86).

DISTRIBUTION. District of Columbia, Florida.

BIOLOGY. Has been reared from the oleuthreutid moth, *Hedya ochroleucana* (Frölich).

### *Achrysocharella damastes* (Walker) comb. n.

*Closterocerus Damastes* Walker, 1847 : 22, ♀.

*Entedon Damastes* (Walker) Walker, 1848 : 137; Peck, 1951 : 470.

TYPE-MATERIAL. One female specimen, mounted on a card, is in the BMNH collection, labelled 'B.M. Type Hym. 5. 2270' and 'Entedon Damastes Walker' by Waterhouse. I designate it LECTOTYPE. Described from St John's Bluff, Florida.

REMARKS. This is a brilliantly coloured and distinctively marked species, yet it does not seem to have been redescribed since Walker's time.

DISTRIBUTION. Florida.

### *Aprostocetus epidius* (Walker) comb. n.

*Tetrastichus Epidius* Walker, 1847 : 28, ♀.

*Aprostocetus granulatus* Ashmead, 1888 : 105, ♀. **Syn. n.**

TYPE-MATERIAL. *Tetrastichus epidius* Walker. There are two female specimens on card points in the BMNH Collection, one of which is labelled 'B. M. Type Hym. 5. 1413; Type, C. F. 1938' and 'Epidius' in Walker's hand. I designate this specimen LECTOTYPE. Described from St John's Bluff, Florida.

*Aprostocetus granulatus* Ashmead. Described from one female specimen from Jacksonville, Florida; the holotype is USNM no. 28662.

REMARKS. I left this species unplaced in my revision of the North American species of *Tetrastichus* (Burks, 1943 : 604), on the basis of the notes that Dr Ferrière had sent me about the type. When I saw the type myself, however, I recognized it as the species that has been called *Aprostocetus granulatus* Ashmead in the North American literature for almost 80 years.

DISTRIBUTION. Ontario south to Florida, west to Illinois.

BIOLOGY. Reared from dipterous gall on *Sambucus*.

### *Cirrospilus eunapius* Walker

*Cirrospilus Eunapius* Walker, 1847 : 27, ♀.

TYPE-MATERIAL. Three female syntypes on card points are in the BMNH collection, the first in the series labelled 'Eunapius' in Walker's hand. I designate the second specimen, labelled 'B.M. Type Hym. 5 2271', as LECTOTYPE. Described from St John's Bluff, Florida.

REMARKS. This is a distinctive species, but I have not seen any specimen of it except these types. These are a brownish purple (may be somewhat faded), with a broad yellow band crossing the praescutum and all but the posterior tips of the two segments of the mesoscutum. There is another yellow cross band at the base of the gaster. The forewing has a broad brown band extending from the marginal vein to the posterior wing margin. The apices of the coxae, trochanters, and the bases of the femora are white, the legs otherwise dark brown. The antenna has the first funicular segment slender, one and one-third times as long as the broader second funicular; the club is as long as the funiculus. The scutellum is quite flat and smooth, with the sublateral carinae distinct. The propodeum has a strong longitudinal, median carina. This well-marked species should be easily identified.

DISTRIBUTION. Florida.

### *Tetrastichus gala* Walker

*Tetrastichus Gala* Walker, 1847 : 28, ♀.

TYPE-MATERIAL. One specimen on a card is in the BMNH collection. It is labelled 'B. M. Type Hym. 5. 1412; Type, C. F., 1938' and 'Tetrastichus Gala Walker' by Waterhouse. I designate it LECTOTYPE. Described from St John's Bluff, Florida.

REMARKS. There are specimens of this species, all from Florida, in the USNM collection.

DISTRIBUTION. Florida.

### *Tetrastichus granulatus* Walker

*Tetrastichus granulatus* Walker, 1844 : 17, ♀.

TYPE-MATERIAL. There are three female syntypes and the gaster of a fourth female in the BMNH collection. One specimen, mounted on a card, is labelled

'B. M. Type Hym. 5. 1411; 44.17, Hudson's Bay, St. Martin's Falls' and 'Tetrastichus granulatus Walker' by Waterhouse, also 'Type C. F. 1938.' I designate it LECTO-TYPE. One of the other specimens is a different species.

REMARKS. I have not seen this species of *Tetrastichus* before, but it should be possible to identify it. The head and body are metallic greenish black, the femora dark metallic green, the tibiae yellow, the antennae dark brown. The forewing has 2 submarginal bristles and the marginal vein is only twice as long as the stigmal vein. Each lateral margin of the praescutum has a single sparse row of bristles. The propodeum is smooth and ecarinate. The ovipositor sheaths do not extend to the apex of the gaster.

DISTRIBUTION. Ontario.

### *Galeopsomyia haemon* (Walker)

*Tetrastichus Haemon* Walker, 1847 : 28, ♀.

*Horismenus haemon* (Walker) Burks, 1943 : 605.

*Galeopsomyia haemon* (Walker) Burks, 1971 : 82.

*Euderus columbiana* Ashmead, 1888 : 104, ♀. **Syn. n.**

*Galeopsomyia columbiana* (Ashmead) Girault, 1916 : 348.

TYPE-MATERIAL. *Tetrastichus haemon* Walker. There are two female and two male syntype specimens; one female is labelled 'B. M. Type Hym. 5. 1414; Type C. F., 1938' and 'Haemon' in Walker's hand. I designated it lectotype in an earlier paper (Burks, 1971 : 82). Described from St John's Bluff, Florida. This species is the same as *Euderus columbiana* Ashmead, the one Girault made type-species of his genus *Galeopsomyia*.

*Euderus columbiana* Ashmead. This was described from an unspecified number of female specimens from the District of Columbia and Florida. There are now six syntype specimens under USNM no. 19923. One, labelled '3192°, Aug. 13, 83; *Euderus columbiana* Ashm.; *Galeopsomyia* genotype' is designated LECTO-TYPE. USNM records show that 3192° was the District of Columbia.

DISTRIBUTION. New York south to Florida west to Missouri and Arizona.

BIOLOGY. Emerges from cecidomyiid galls.

### *Euderus herillus* (Walker)

*Entedon* (*Euderus*) *Herillus* Walker, 1847 : 23, ♀.

*Euderus herillus* (Walker) Dalla Torre, 1898 : 6.

*Euderus* (*Leipocrossus*) *herillus* (Walker) Yoshimoto, 1971 : 556.

TYPE-MATERIAL. Two female specimens, one of which, designated lectotype by Yoshimoto (1971 : 558), is labelled 'B. M. Type Hym. 5. 2091.' Described from St John's Bluff, Florida.

DISTRIBUTION. Virginia, Georgia, Florida.

*Neochrysocharis imbrasus* (Walker) **comb. n.**

- Entedon Imbrasus* Walker, 1847 : 23, ♀.  
*Encyrtus imbrasus* (Walker) Dalla Torre, 1898 : 259.  
*Microterys imbrasus* (Walker) Ashmead, 1900 : 391.  
*Chrysocharis imbrasus* (Walker) Graham, 1963 : 234.

TYPE-MATERIAL. One female specimen mounted on a card is in the BMNH collection, labelled 'B. M. Type Hym. 5. 2274' and 'Entedon Imbrasus Walker' by Waterhouse. I designate it LECTOTYPE. Described from St John's Bluff, Florida.

DISTRIBUTION. Florida.

*Necremnus iphinoe* (Walker)

- Eulophus Iphinoe* Walker, 1847 : 25, ♂.  
*Necremnus iphinoe* (Walker) Peck, 1951 : 428.  
*Eulophus Gobryas* Walker, 1847 : 26, '♂' = ♀. **Syn. n.**

TYPE-MATERIAL. *Eulophus iphinoe* Walker. One male specimen on a card point is in the BMNH collection, labelled 'B. M. Type. Hym. 5. 2272' and 'Iphinoe' in Walker's hand. I designate it LECTOTYPE. Described from St John's Bluff, Florida. It clearly is the male that should be associated with the female Walker described under the name *Eulophus gobryas*.

*Eulophus gobryas* Walker. One female specimen on a card point is in the BMNH collection, labelled 'B. M. Type Hym. 5. 2273' and 'Gobryas' in Walker's hand. I designate it LECTOTYPE. Described from St John's Bluff, Florida.

DISTRIBUTION. Florida.

*Stenomesus levana* (Walker), **comb. n.**

- Elachestus Levana* Walker, 1847 : 27, ♀.

TYPE-MATERIAL. There are two female specimens, mounted on card points, in the BMNH collection. The first of these, labelled 'B. M. Type Hym. 5. 2275' and 'Levana' in Walker's hand, is designated LECTOTYPE.

REMARKS. This species does not seem to have been collected again since the original specimens were taken on St John's Bluff. Its characters place it in the genus *Stenomesus*. It has a well marked occipital carina; the pronotum is prominently carinate anteriorly; the thorax is strongly sculptured dorsally; the scutellum is carinate laterally and posteriorly, this carina formed by a series of minute, elongate, pits; the propodeum has two median carinae, these converging to form a single one near centre of the propodeum; the gastral petiole is elongate, the gaster semi-ovate.

DISTRIBUTION. Florida.

*Pnigalio minio* (Walker)

- Eulophus Minio* Walker, 1847 : 26, ♀.  
*Pnigalio minio* (Walker) Peck, 1951 : 426.  
*Elachistus proximus* Ashmead, 1894 : 340, ♀. **Syn. n.**

TYPE-MATERIAL. *Eulophus minio* Walker. There are two female specimens on card points in the BMNH collection under this name. The first is a *Pnigalio* labelled 'B. M. Type Hym. 5. 2276' and 'Minio' in Walker's hand. I designate it LECTOTYPE. The second specimen belongs in another genus. Described from St John's Bluff, Florida. Miller (1970 : 78) left this species unplaced, in his revision of the North American species of *Pnigalio*.

*Elachistus proximus* Ashmead. Described from a single female specimen; the holotype is USNM no. 23452. Described from Morgantown, West Virginia. Miller (1970 : 12) gives several synonyms under *proximus*.

DISTRIBUTION. Quebec south to Florida west to the Mississippi Valley.

BIOLOGY. A primary parasite of leaf-miners.

### *Aulogymnus minyas* (Walker), **comb. n.**

*Eulophus Minyas* Walker, 1847 : 26, ♀.

TYPE-MATERIAL. There are two syntype female specimens in the BMNH collection mounted on card points. The first specimen is labelled 'Minyas' in Walker's hand. I designate the second specimen, labelled 'B. M. Type Hym. 5. 2277', as LECTOTYPE. Described from St John's Bluff, Florida.

REMARKS. This species does not seem to have been found again since the original description. It clearly belongs in *Aulogymnus*, and is somewhat similar to the European *A. aceris* Foerster.

DISTRIBUTION. Florida.

### *Acrias nileus* Walker

*Acrias Nileus* Walker, 1847 : 29, ♀.

TYPE-MATERIAL. One female specimen mounted on a card is in the BMNH collection, labelled 'B. M. Type Hym. 5. 2278' and 'Nileus' in Walker's hand. I designate it LECTOTYPE. Described from St John's Bluff, Florida.

REMARKS. This distinctively marked species, type-species of the genus *Acrias* Walker, has remained essentially unrecognized since its description over 130 years ago. Ashmead is supposed to have seen this type before he prepared his *Classification of the Chalcid Flies* (1904). If so, the characters he gives for it, 'head large, much wider than the thorax; wings with one or two fuscous fasciae; abdomen conic-ovate, the second segment occupying half the whole surface', are extremely misleading. In fact, the head is not large, but is the same width as the thorax; the forewing has a distinct longitudinal, dark streak in the basal half and peripheral dark spots in the apical area; the gaster is narrow and elongate; and the second gastral segment occupies only one-sixth the length of the gaster. The genus *Acrias*, as represented by its type-species, is closely related to *Euderus* Haliday and, thus, has only very remote relationship to such genera as *Paracrias* Ashmead or *Euparacrias* Brèthes.



There is a specimen of *Acrias nileus* in the USNM collection from Willow Grove, Pa., reared 2 June, 1932, from a host that is thought to be *Agonopterix nebulosa* Zeller. This specimen has been labelled as an unknown genus of Eulophidae for nearly 40 years.

DISTRIBUTION. Pennsylvania, Florida.

### *Horismenus sardus* (Walker)

*Entedon* (*Horismenus*) *Sardus* Walker, 1847 : 23, ♀.

*Encyrtus sardus* (Walker) Dalla Torre, 1898 : 263.

*Pseudomphale sardus* (Walker) Girault, 1918 : 130.

*Horismenus sardus* (Walker) Peck, 1951 : 468.

*Elachristus flavipes* Ashmead, 1886 : 133, ♀. [Synonymized by Burks, 1971 : 81.]

TYPE-MATERIAL. *Entedon sardus* Walker. One female specimen, mounted on a card, is in the BMNH collection, labelled 'B. M. Type Hym. 5. 2074; *Horismenus sardus* Wlk. Type G. J. Kerrich det. 1969' and 'Sardus' in Walker's hand. I designate it LECTOTYPE. Described from North America.

REMARKS. This species has been treated in my recent revision of the North American species of *Horismenus* Walker (Burks, 1971).

## ENCYRTIDAE

### *Pseudencyrtus bolus* (Walker) comb. n.

*Encyrtus bolus* Walker, 1844 : 17, ♀.

(?) *Microterys bolus* (Walker) Ashmead, 1900 : 393.

*Microterys bolus* (Walker) Peck, 1951 : 488.

TYPE-MATERIAL. Three female specimens on individual card points were on a single pin in the BMNH collection, labelled 'Type; Spalangia from swelled willow twig; B. M. Type 5. 1, 115' and 'Encyrtus Bolus Walker' by Waterhouse. The second specimen of the three was repinned and labelled LECTOTYPE, and is here designated as such; the other two were labelled 'paralectotype'. The lectotype has both antennae intact and all legs and wings remaining, but is somewhat entangled in the mounting medium. Described from St Martin's Falls, Albany River, Ontario.

DISTRIBUTION. Ontario, Idaho.

BIOLOGY. There is a series of this species in the USNM collection that was reared at Krassel, Idaho, from dipterous galls on *Salix*.

### *Chrysopphagus flaccus* (Walker) comb. n.

*Encyrtus* (*Cerchysius*) *Flaccus* Walker, 1847 : 21, ♀.

*Cerchysius flaccus* (Walker) Dalla Torre, 1898 : 244.

*Savanotum americanum* Perkins, 1906 : 260, ♀. **Syn. n.**

*Chrysopphagus americanus* (Perkins) Peck, 1951 : 499.

TYPE-MATERIAL. *Encyrtus flaccus* Walker. A single female specimen, mounted on a card point is under the genus *Cerchysius*, labelled 'B. M. Type Hym. 5. 2279' and 'Cerchysius Flaccus Walker' by Waterhouse. I designate it LECTOTYPE. Described from St John's Bluff, Florida. This specimen is poorly mounted and the all important dorsal thoracic bristles have been rubbed off, but it clearly is the species long known in North American literature as *americanus* Perkins.

*Saranotum americanum* Perkins. This was described from one female specimen from Ohio; the type is in the Bishop Museum, Honolulu, and I have not seen it. There are, however, specimens in the USNM that P. H. Timberlake compared with this type.

DISTRIBUTION. Continental United States, Hawaii.

BIOLOGY. This is a secondary parasite of leafhoppers, emerging from the cocoons of their dryinid primary parasites.

### *Encyrtus gastron* Walker

*Encyrtus gastron* Walker, 1847 : 21, ♀.

TYPE-MATERIAL. There is a single specimen, mounted on a card point, in the BMNH collection. It is labelled 'B. M. Type Hym. 5. 2280' and 'Gastron, Walk. Fla.' in Walker's hand. I designate it LECTOTYPE. Described from St John's Bluff, Florida. This specimen is so poorly preserved that it probably never can be placed. Both antennae are missing, the left forewing is missing, and the hindwings and legs are embedded in the mounting medium.

DISTRIBUTION. Florida.

### *Encyrtus reate* Walker

*Encyrtus Reate* Walker, 1847 : 22, ♂.

TYPE-MATERIAL. Lost. Described from St John's Bluff, Florida.

DISTRIBUTION. Florida.

### *Psyllaephagus vectius* (Walker) comb. n.

*Encyrtus Vectius* Walker, 1847 : 21, ♂.

*Syrphophagus vectius* (Walker) Ashmead, 1900 : 398.

*Encyrtus solus* Howard, 1885 : 15, ♀. **Syn. n.**

*Psyllaephagus solus* (Howard) Gahan & Waterston, 1926 : 375.

TYPE-MATERIAL. *Encyrtus vectius* Walker. A single badly broken male specimen, mounted on a card point, is in the BMNH collection. It is labelled 'B. M. Type Hym. 5. 2281' and 'Encyrtus Vectius Walker' by Waterhouse. I designate it LECTOTYPE. Described from St John's Bluff, Florida. The specimen is fragmentary, lacking all legs and all apical segments of both antennae, but the characteristic, deep-striate sculpture of the scutellum and the dark shadow in the

anteroapical angle of the forewing will place this as the species long known as *Psyllaephagus solus* (Howard).

*Encyrtus solus* Howard. Described from one female specimen from Gainesville, Florida; the holotype is USNM no. 2637.

DISTRIBUTION. Florida.

BIOLOGY. Has been reared from the gall of *Trioza magnoliae* (Ashmead).

## EUELMIDAE

### *Eupelmella epicaste* (Walker)

*Eupelmus Epicaste* Walker, 1847 : 20, ♀.

*Eupelmella epicaste* (Walker) Peck, 1951 : 512.

*Macroneura epicaste* (Walker) Peck, 1963 : 493.

*Eupelminus meteori* Gahan, 1913 : 437, ♀. **Syn. n.**

*Eupelmella meteori* (Gahan) Peck, 1951 : 512.

*Macroneura meteori* (Gahan) Peck, 1963 : 494.

TYPE-MATERIAL. *Eupelmus epicaste* Walker. There is a single female specimen, mounted on a card point, in the BMNH collection under *Eupelmus*, labelled 'B. M. Type Hym. 5. 2282' and 'Eupelmus Epicaste Walker' by Waterhouse. I designate it LECTOTYPE. Described from St John's Bluff, Florida. This specimen is intact, but evidently at some time had been broken in two at the propodeum and then rejoined. This is the species now being called *meteori* Gahan.

*Eupelminus meteori* Gahan. Described from five female specimens; one specimen, labelled 'Brownsville, Tex., Exp. II; Webster no. 6446 b?; Type No. 16355 U. S. N. M.' is designated LECTOTYPE.

DISTRIBUTION. Florida, Kansas, Texas.

BIOLOGY. This is secondary parasite, emerging from the cocoons of braconid primary parasites.

### *Eupelmus fonteia* Walker

*Eupelmus Fonteia* Walker, 1847 : 19, ♀.

TYPE-MATERIAL. There are three female syntypes in the BMNH collection under this name. The specimens are on card points, and each is labelled 'Eupelmus fonteia Walker' by Waterhouse. I designate the first specimen in the series, labelled 'B. M. Type Hym. 5. 2283', as LECTOTYPE. Described from St John's Bluff, Florida.

REMARKS. This is *Eupelmus* as that genus is currently understood, but this species cannot be placed until the genus is revised for North America. *Eupelmus fonteia* is one of the species lacking an exerted ovipositor, the head and body are iridescent coppery black, and the antennal scape is black; the body pubescence is silvery, the femora and tibiae are yellow-brown with slight darkening at the apices of the femora and middles of the tibiae; and tarsi are white.

DISTRIBUTION. Florida.

*Eupelmus lamachus* Walker

*Eupelmus lamachus* Walker, 1847 : 20, ♀.

TYPE-MATERIAL. There is a single specimen, mounted on a card point, in the BMNH collection labelled 'B. M. Type Hym. 5. 2284' and 'Eupelmus Lamachus Walker' in Waterhouse's hand. I designate it LECTOTYPE. It is in poor condition. Described from St John's Bluff, Florida.

REMARKS. This is *Eupelmus* as the genus is currently understood, but this species cannot be placed until *Eupelmus* is revised. This is one of the thickset, large species of *Eupelmus*. It has the head and body red-coppery black (a colour that seems to occur only in Florida species). The midlegs are entirely yellow, but the other legs are yellow only beyond the coxae; the antennae are black; the compound eyes are large, and the lateral ocelli almost but not quite touch the margins of the compound eyes; the hind tibiae are not flattened and there are no visible bristles on the scutellum.

DISTRIBUTION. Florida.

## PERILAMPIDAE

[*Perilampus alexinus* Walker

See under Chalcididae below.]

*Perilampus hyalinus* Say

*Perilampus hyalinus* Say, 1828 : 79.

*Perilampus Entellus* Walker, 1843b : 103, ♀, ♂. **Syn. n.**

TYPE-MATERIAL. *Perilampus hyalinus* Say. Type lost, but the identity of this species, originally described from Pennsylvania, has long been accepted on the basis of the identifications used by Smith (1912 : 34-48), Crawford (1914 : 70) and Smulyan (1936 : 380), all of which agree.

*Perilampus entellus* Walker. There is one female specimen, mounted on a small pin on a card, in the BMNH collection, labelled 'B. M. Type Hym. 5. 2285' and 'Perilampus Entellus' in Walker's hand. I designate it LECTOTYPE. This species was originally described from several specimens of both sexes from Ohio. The single remaining specimen runs to *hyalinus* Say in Smulyan (1936 : 372), and is in agreement with the current concept of this species.

DISTRIBUTION. North America.

*Perilampus lepreos* Walker

*Perilampus lepreos* Walker, 1846 : 89.

*Euperilampus lepreos* (Walker) Peck, 1951 : 516.

TYPE-MATERIAL. Missing. Described from Georgia.

DISTRIBUTION. Georgia.

## TORYMIDAE

*Torymus aea* (Walker)

*Callimome Aea* Walker, 1843b : 104, ♀.

*Torymus aea* (Walker) Cresson, 1887 : 237.

*Torymus aeus* (Walker) Peck, 1951 : 521.

*Syntomaspis amelanchieris* Cushman, 1918 : 82, ♀, ♂. **Syn. n.**

*Torymus amelanchieris* (Cushman) Peck, 1951 : 521.

TYPE-MATERIAL. *Callimome aea* Walker. There is a single female specimen, mounted on a small pin on a card, in the BMNH collection, labelled 'B. M. Type Hym. 5. 44' and 'Callimome aea Walker' by Waterhouse. There is also a locality label, 'St. John's Bluff,' added in error by someone after Walker's time; this species was described from near New York. I designate this specimen LECTOTYPE. This is the species described many years later by Cushman as *amelanchieris*.

*Syntomaspis amelanchieris* Cushman. Described from five females and one male from Pickens, West Virginia; the holotype female is USNM no. 20968.

DISTRIBUTION. North-eastern North America.

BIOLOGY. Milliron (1949 : 393-395) has shown that the larva of this species develops in an *Amelanchier* seed first as an external parasite on the larva of *Megastigmus amelanchieris* Cushman and, after having consumed it, becomes phytophagous and completes its development by feeding on the seed itself. This type of parasitic-phytophagous development occurs elsewhere in the Chalcidoidea (Malyshév, 1968 : 53).

*Megastigmus albifrons* Walker

*Megastigmus albifrons* Walker, 1869 : 314, ♂.

TYPE-MATERIAL. One male specimen, mounted on a card, is in the BMNH collection, labelled 'albifrons' in Walker's hand and 'B. M. Type Hym. 5.67.' I designate it LECTOTYPE. Reared in England from a pine cone collected in California. This certainly is the species currently being identified as *albifrons*.

DISTRIBUTION. South-western United States.

BIOLOGY. Develops in the seeds of *Pinus ponderosa*.

*Torymus cecidomyiae* (Walker)

*Callimome Cecidomyiae* Walker, 1844 : 15, ♀.

*Torymus cecidomyiae* (Walker) Cresson, 1887 : 237.

*Callimome strobiloides* Huber, 1927 : 40, ♀. **Syn. n.**

*Torymus strobiloides* (Huber) Peck, 1951 : 526.

TYPE-MATERIAL. *Callimome cecidomyiae* Walker. Two female specimens in poor condition are in the BMNH collection. Each is labelled 'Hudson's Bay; Callimome Cecidomyae Walker' by Waterhouse. I designate the second specimen, labelled 'B. M. Type Hym. 5. 2286', as LECTOTYPE. This specimen was originally

on a pin; but it has been remounted on a card point. The other specimen has the thorax with the attached left forewing mounted on a card, the other fragments cemented to the locality label beneath. This is recognizably the same as Huber's species *strobiloides*.

*Callimome strobiloides* Huber. Described from three female specimens from Columbus, Ohio. The holotype female is USNM no. 25351.

DISTRIBUTION. Quebec, Ontario, New Hampshire, New York, Ohio, Minnesota.

BIOLOGY. Reared from midge galls on buds of *Salix*.

### *Torymus lissus* (Walker)

*Callimome lissus* Walker, 1843a : 150, ♂.

*Torymus lissus* (Walker) Cresson, 1887 : 237.

*Syntomaspis lissus* (Walker) Ashmead, 1887 : 187.

*Callimome aenea* Ashmead, 1881a : xxxiii, ♀, ♂. **Syn. n.**

*Torymus aeneus* (Ashmead) Cresson, 1887 : 237.

TYPE-MATERIAL. *Callimome lissus* Walker. A single male specimen mounted on a card is in the BMNH collection, labelled 'B. M. Type Hym. 5. 2287', '1481a' and 'Callimome Lissus Walker' by Waterhouse. I designate it LECTOTYPE. Described from St John's Bluff, Florida. Although the lectotype is a male, it can be placed as the species now called *aeneus* in the North American literature.

*Callimome aenea* Ashmead. This was described from several female and male specimens from Jacksonville, Florida; Huber (1927 : 56) designated a lectotype. Two other species are at present listed as synonyms of this one, but *Torymus* is now being revised. This restudy might result in some change in the synonymy.

DISTRIBUTION. Florida.

BIOLOGY. Emerges from galls of *Disholcaspis* on white oak.

### *Torymus splendidulus* Dalla Torre

*Callimome splendidus* Walker, 1844 : 14, ♀.

*Torymus splendidus* (Walker) Cresson, 1887 : 237. [Homonym of *Torymus splendidus* Foerster, 1841 : 32.]

*Torymus splendidulus* Dalla Torre, 1898 : 313. [Replacement name.]

TYPE-MATERIAL. One female specimen mounted on a small pin on a card is in the BMNH Collection, labelled 'B. M. Type Hym. 5. 48; St. Martin's Falls' and 'Callimome splendidus Walker' by Waterhouse. I designate it LECTOTYPE. The specimen is in only fair condition, each antenna being broken off beyond  $f_4$ , the thorax distorted by the mounting pin, the ovipositor sheaths lost, but the ovipositor itself remaining.

REMARKS. This species was not recognized by Huber (1927 : 101) and it clearly is not included in his revision under some other name. It also is not included in the unpublished, but widely circulated, manuscript classification of North American *Torymus* prepared by Lienk (1951). I find no specimens of it in the USNM collection.

It has the following key characters. Stigmal vein petiolate; scutellum without cross-furrow; antennal scape pale tan, flagellum black; head and thorax dark reddish bronze-green; legs, including apices of coxae, bright yellow-tan; gaster iridescent green-bronze with a small ventral area at base yellowish; ovipositor slightly longer than gaster; propodeum with moderately rough sculpture and a prominent median carina that bifurcates near base.

DISTRIBUTION. Ontario.

### *Torymus theon* (Walker)

*Callimome theon* Walker, 1843a : 149, ♀.

*Syntomaspis theon* (Walker) Ashmead, 1887a : 187.

*Torymus theon* (Walker) Peck, 1951 : 526.

TYPE-MATERIAL. There are two female specimens mounted on cards in the BMNH collection, one of which is labelled, 'B. M. Type Hym. 5. 20; 1480a St. John's Bluff' and 'Callimome Theon Walker' in Waterhouse's hand, and is designated LECTOTYPE; this specimen is cemented on its side on the mounting card, with the head detached and cemented on the card.

REMARKS. This species cannot at present be placed. It does not run in Huber (1927) or in Lienk (1951), and I do not find specimens of it in the USNM collection. However, this is a distinctive species that should be possible to place. The antennal scape is yellow, the flagellum black; all tibiae are yellow, legs otherwise dark metallic green; thorax and gaster dark metallic green with silvery pubescence; stigmal vein of forewing subsessile and with three rows of wing bristles radiating from its apex; all wing veins yellow; scutellum with a deep cross-furrow, space posterior to this furrow shagreened; dorsum of thorax minutely shagreened, with interspersed short bristles that arise from obscure pits; propodeum lightly shagreened, almost smooth; ovipositor as long as body. The thorax is relatively thickset, with a subacute, longitudinal ridge on the posterior third of each lobe of the mesoscutum.

DISTRIBUTION. Florida.

## ORMYRIDAE

### *Ormyrus labotus* Walker

*Ormyrus labotus* Walker, 1843a : 148, ♀, ♂.

*Ormyrus andricus* Ashmead, 1886 : 128, ♀. **Syn. n.**

TYPE-MATERIAL. *Ormyrus labotus* Walker. There are one female and two male specimens, mounted on cards, in the BMNH collection. The female is labelled 'B. M. Type Hym. 5. 63; 1479a; St. John's Bluff' and 'Ormyrus Labotus Walker' by Waterhouse; I designate it LECTOTYPE. The two males are labelled 'Co-type', one '1479b; St. John's Bluff', the other '1479c; St. John's Bluff.' This species is clearly the same as *andricus* Ashmead.

*Ormyrus andricus* Ashmead. Described from one female specimen from Jacksonville, Florida. The holotype is USNM no. 41108.

DISTRIBUTION. Florida. There are references in the literature to *labotus* as occurring in Kansas and Maryland, but the identifications on which those records were based were made without reference to Walker's type. It is not possible now to locate the specimens involved, so those records cannot be verified. There are many specimens of *labotus* in the USNM collection, but all are from Florida.

BIOLOGY. Emerges from galls of *Callirhytis* on white oak.

## PTEROMALIDAE

### *Pachyneuron albutius* Walker

*Pachyneuron albutius* Walker, 1843a : 158, ♀.

*Pachyneuron Albutius* Walker, 1846 : 35. [Correction of spelling of generic name.]

*Spalangia syrphi* Ashmead, 1881a : 171, ♀, ♂. **Syn. n.**

*Pachyneuron syrphi* (Ashmead) Ashmead, 1887a : 193.

*Pachyneuron allograptae* Ashmead, 1887b : 15. ♀, ♂. **Syn. n.**

TYPE-MATERIAL. *Pachyneuron albutius* Walker. There is a single female specimen, mounted on a card point, in the BMNH collection, labelled 'B.M. Type Hym. 5. 860; 1492a; St. John's Bluff' and 'Pachyneuron Albutius Walker' by Waterhouse. I designate it LECTOTYPE. This specimen is in poor condition, but it is recognizable as the common Nearctic *Pachyneuron* parasitic on syrphid flies.

*Spalangia syrphi* Ashmead. This was originally described from five female and two male specimens of which only two female syntypes are now in the USNM collection. One female, labelled 'Jacksonville, Fla., Collection Ashmead; Pachyneuron syrphi Ashm.', is designated LECTOTYPE and is USNM Type no. 2823.

*Pachyneuron allograptae* Ashmead. This species was described from 'several specimens'. There are now five female syntypes in the USNM collection; one, labelled 'Jacksonville, Fla., Collection Ashmead; Pachyneuron allograptae Ashm.', is designated LECTOTYPE and is USNM no. 2847.

DISTRIBUTION. North America, Central America, West Indies.

BIOLOGY. This species is commonly reared as a primary parasite of syrphid flies; see Peck (1963 : 613) for a host list.

### *Pteromalus cassotis* Walker

*Pteromalus cassotis* Walker, 1847 : 393, ♀.

*Pteromalus archipphi* Howard, 1889 : 1872, 1891, ♀. **Syn. n.**

TYPE-MATERIAL. *Pteromalus cassotis* Walker. There are three female specimens, on card points, in the BMNH collection, labelled 'B.M. Type Hym. 5. 754a, b, c.' Each is labelled 'Pteromalus cassotis Walker' by Waterhouse. I designate specimen



754c LECTOTYPE. Described from St John's Bluff, Florida. This species is the same as the one currently being called *archippi*.

*Pteromalus archippi* Howard. This was described from an unspecified number of female specimens from Eastern North America; it is now represented by three syntypes in the USNM. One of these, labelled 'Ac. Cat. 815; Ag. Coll. Mich.; 9-13-87; *Pteromalus archippi* ♀ Type How.; U. S. N. M. No. 2675', is designated LECTOTYPE.

DISTRIBUTION. North America.

BIOLOGY. Most commonly a parasite of nymphalids, but has also been reared from pierids and papilionids.

### *Neocatolaccus cratylus* (Walker) comb. n.

*Pteromalus Cratylus* Walker, 1847 : 392, ♀.

TYPE-MATERIAL. There is a single female specimen mounted on a card point in the BMNH collection, labelled 'B.M. Type Hym. 5. 753' and 'Pteromalus Cratylus Walker' by Waterhouse. I designate it LECTOTYPE. Described from St John's Bluff, Florida. The lectotype is fragmentary, so it probably never can be placed specifically, but it is a *Neocatolaccus*.

DISTRIBUTION. Florida.

### *Capellia cyrene* (Walker) comb. n.

*Micromelus cyrene* Walker, 1843a : 154, ♀.

*Boeotomus cyrene* (Walker) Cresson, 1887 : 242.

*Callitula cyrene* (Walker) Peck, 1951 : 548.

*Pseudomicromelus cyrene* (Walker) Burks, 1958 : 76.

TYPE-MATERIAL. There is a single female specimen mounted on a card in the BMNH collection, labelled 'B.M. Type Hym. 5. 686; 1487a; St. John's Bluff' and 'Micromelus Cyrene Walker' by Waterhouse. I designate it LECTOTYPE. This specimen was originally cemented on its side on a card in such a way that study of it was virtually impossible. Dr Bouček successfully remounted it on a card with the wings spread and the dorsal side up, after which delicate operation its characters were clearly evident. He and I agree that this belongs in the genus *Capellia* Delucchi, close to, but distinct from, *rufiventris* (Girault). There is a specimen of *cyrene* in the USNM collection, taken at Jacksonville, Fla., by Ashmead many years ago.

DISTRIBUTION. Florida.

### *Callitula cyrnus* (Walker) comb. n.

*Lampretatus cyrnus* Walker, 1843a : 157.

*Lamprotatus cyrnus* (Walker) Walker, 1846 : 32.

*Cryptoprymnus illinoensis* Ashmead, 1896 : 228, ♀. **Syn. n.**

*Callitula illinoensis* (Ashmead) Peck, 1951 : 548.

TYPE-MATERIAL. *Lamprotatus cyrnus* Walker. There are eight syntypes mounted on card points in the BMNH collection, one of which is labelled 'B.M. Type Hym. 5. 820; St. John's Bluff' and 'Lamprotatus Cyrnus Walker' by Waterhouse, and is designated LECTOTYPE. The other seven specimens, all labelled as 'Cotypes' of this species, are not congeneric with the lectotype. The lectotype is recognizable as the male of the rather rare North American species described by Ashmead as *illinoensis*.

*Cryptoprymnus illinoensis* Ashmead. This was described from one female specimen from Algonquin, Illinois. The holotype is USNM no. 26035.

DISTRIBUTION. Maryland south to Florida west to Illinois.

BIOLOGY. This species has been reared from the Hessian fly, *Mayetiola destructor* (Say), and other small Diptera associated with grasses.

### *Habrocytus damo* (Walker)

*Pteromalus Damo* Walker, 1847 : 395, ♀.

*Habrocytus damo* (Walker) Graham, 1969 : 561.

TYPE-MATERIAL. There is one female specimen mounted on a card point in the BMNH collection, labelled 'B.M. Type Hym. 5. 759' and 'Pteromalus Damo Walker' by Waterhouse. I designate it LECTOTYPE. Described from St John's Bluff, Florida. This lectotype specimen lacks a head, and the legs and wings are entangled in the mounting medium. I agree with Graham's generic placement of it; it cannot be placed specifically until the North American species of *Habrocytus* are revised.

DISTRIBUTION. Florida.

### *Trichomalus deiphon* (Walker) comb. n.

*Metopon deiphon* Walker, 1843a : 161, ♀.

*Psilocera deiphon* (Walker) Walker, 1846 : 36.

TYPE-MATERIAL. There is one female specimen mounted on a card point in the BMNH collection, labelled 'B.M. Type Hym. 5. 693; 1495a; St. John's Bluff' and 'Psilocera Deiphon Walker' by Waterhouse. I designate it LECTOTYPE. Graham (1969 : 467) examined this specimen and excluded it from *Psilocera* and was of the opinion that it was near *Spaniopus* Walker or *Trichomalus* Thomson. I believe it belongs in *Trichomalus*. There are no specimens of this species in the USNM collection.

DISTRIBUTION. Florida.

### *Seladerma diaeus* (Walker)

*Lamprotatus Diaeus* Walker, 1844 : 16, ♀.

*Seladerma diaeus* (Walker) Graham, 1969 : 203.

TYPE-MATERIAL. There is one female specimen on a card point in the BMNH collection, labelled 'B.M. Type Hym. 5. 822; 44 17; Martin's Falls; Hudson's Bay; Bred from pupa of *Vanessa Cardui*' and '*Lamprotatus Diaeus* Walker' by Waterhouse. Graham (1969 : 203) designated a lectotype for this species and transferred it to *Seladerma* Walker.

DISTRIBUTION. Ontario.

BIOLOGY. Graham (1969 : 203) has shown that the host label on the type of this species is erroneous and should have referred to *Pteromalus puparum* (L.) instead. His opinion is that the true host of *diaeus* is probably an agromyzid.

### *Pteromalus doryssus* Walker

*Pteromalus doryssus* Walker, 1847 : 395, ♀, ♂.

TYPE-MATERIAL. Missing. Described from St John's Bluff, Florida.

DISTRIBUTION. Florida.

### *Zatropis dymnus* (Walker) comb. n.

*Pteromalus Dymnus* Walker, 1847 : 397, ♀.

TYPE-MATERIAL. There is one female specimen on a card point in the BMNH collection, labelled 'B.M. Type Hym. 5. 760' and '*Pteromalus Dymnus* Walker' by Waterhouse. I designate it LECTOTYPE. Described from St John's Bluff, Florida. This lectotype specimen lacks a head, so its specific placement will probably never be possible, but it belongs in the genus *Zatropis* Crawford.

DISTRIBUTION. Florida.

### *Norbanus dysaules* Walker

*Norbanus dysaules* Walker, 1843a : 159, ♂, ♀.

TYPE-MATERIAL. There are ten female and five male specimens, all on card points, in the BMNH collection. They are labelled 'B.M. Type Hym. 5. 694' and each bears the Waterhouse labels 'St. John's Bluff; *Norbanus Dysaules* Walker.' The female specimen bearing the number 1493a is designated LECTOTYPE. There is an additional female paralectotype in the USNM, received through exchange in 1949.

REMARKS. This species, and through it, the genus *Norbanus*, has long been correctly placed in the North American literature. Graham (1969 : 438) examined the type-series of *dysaules*.

DISTRIBUTION. Florida.

### *Habrocytus epicles* (Walker)

*Pteromalus Epicles* Walker, 1847 : 394. ♀.

*Habrocytus epicles* (Walker) Graham, 1969 : 561.

TYPE-MATERIAL. There is one female specimen mounted on a card point in the BMNH collection, labelled 'B.M. Type Hym. 5. 758' and 'Pteromalus epicles Walker' by Waterhouse. I designate it LECTOTYPE. Described from St John's Bluff, Florida. I agree with Graham's generic assignment for this species, but it cannot be placed specifically until the North American species of *Habrocytus* are revised.

DISTRIBUTION. Florida.

***Pteromalus eryx* Walker**

*Pteromalus Eryx* Walker, 1847 : 397, ♂.

TYPE-MATERIAL. There is one male specimen mounted on a card point in the BMNH collection, labelled 'B.M. Type Hym. 5. 761' and 'Pteromalus Eryx Walker' by Waterhouse. I designate it LECTOTYPE. Described from St John's Bluff, Florida. This lectotype specimen is in very poor condition, lacking the head and anterior legs. It obviously is not *Pteromalus*, as that genus is currently defined, but neither Dr Bouček nor I can place it. I made an exhaustive search through the USNM collection, but did not find a pteromalid male that seemed likely to be the same as this one. This species should be left unplaced.

DISTRIBUTION. Florida.

***Trichomalus eurypon* (Walker) comb. n.**

*Pteromalus eurypon* Walker, 1847 : 398, ♀.

TYPE-MATERIAL. There is one female specimen on a card point in the BMNH collection, labelled 'B.M. Type Hym. 5. 762' and 'Pteromalus Eurypon Walker' by Waterhouse. I designate it LECTOTYPE. Described from St John's Bluff, Florida. The single specimen is in poor condition, with all wings and the apex of the abdomen missing. It should be placed in the genus *Trichomalus* Thomson, but it is doubtful that it can be placed specifically, because of its fragmentary condition.

DISTRIBUTION. Florida.

***Pteromalus euthymus* Walker**

*Pteromalus euthymus* Walker, 1847 : 393, ♂.

TYPE-MATERIAL. Missing. Described from St John's Bluff, Florida.

DISTRIBUTION. Florida.

***Trichomalus habis* (Walker) comb. n.**

*Lampretatus habis* Walker, 1843a : 155, ♀.

*Lamprotatus habis* (Walker) Walker, 1846 : 32.

TYPE-MATERIAL. There is one female specimen mounted on a card point in the BMNH collection, labelled 'B.M. Type Hym. 5. 818; 1488a; St. John's Bluff' and 'Lamprotatus Habis Walker' by Waterhouse. I designate it LECTOTYPE. The specimen is almost intact, but the wings are cemented together. This belongs in *Trichomalus* Thomson; I find no specimens of it in the USNM collection.

DISTRIBUTION. Florida.

***Zatropis hermeas* (Walker) comb. n.**

*Pteromalus hermeas* Walker, 1847 : 394, ♀.

TYPE-MATERIAL. There is one female specimen on a card point in the BMNH collection, labelled 'B.M. Type Hym. 5. 756' and 'Pteromalus Hermeas Walker' by Waterhouse. I designate it LECTOTYPE. Described from St John's Bluff, Florida. This lectotype specimen is badly broken, but the fragments are cemented to the card point. It can be placed in the genus *Zatropis* Crawford, but its specific placement is equivocal. It may be the same as the species now being called *Z. incertus* (Ashmead, 1893 : 186).

DISTRIBUTION. Florida.

***Acaenacis lausus* (Walker) comb. n.**

*Pteromalus Lausus* Walker, 1847 : 392, ♀.

*Pteromalus Dipsas* Walker, 1847 : 394, ♂. **Syn. n.**

*Semiotellus ficigeræ* Ashmead, 1885 : xvii, ♀, ♂. **Syn. n.**

*Acaenacis ficigeræ* (Ashmead) Girault, 1917 : 1a.

TYPE-MATERIAL. *Pteromalus lausus* Walker. There are two female specimens on card points in the BMNH collection, labelled 'B.M. Type Hym. 5. 752a, 752b' and 'Pteromalus Lausus Walker' by Waterhouse. I designate specimen 752a as LECTOTYPE. Described from St John's Bluff, Florida.

*Pteromalus dipsas* Walker. There is one male specimen on a card point in the BMNH collection, labelled 'B.M. Type Hym. 5. 755' and 'Pteromalus Dipsas Walker' by Waterhouse. I designate it LECTOTYPE. Described from St John's Bluff, Florida. This is the male that should be associated with the female described as *lausus*.

*Semiotellus ficigeræ* Ashmead. This species was described from an unspecified number of male and female specimens; there are now four female and three male syntypes in the USNM collection. One female labelled 'Jacksonville, Fla., Collection Ashmead,' is designated LECTOTYPE. This species agrees in both sexes with *lausus* and *dipsas*. Girault (1917 : 1a) designated *ficigeræ* as type-species of his genus *Acaenacis*.

DISTRIBUTION. Florida.

BIOLOGY. Has been reared from a *Disholcaspis* gall on white oak.

*Mesopolobus oeax* (Walker) **comb. n.**

*Pteromalus oeax* Walker, 1847 : 395, ♀.

TYPE-MATERIAL. There is one female specimen on a card point in the BMNH collection, labelled 'B.M. Type Hym. 5. 763' and 'Pteromalus Oeax Walker' by Waterhouse. I designate it LECTOTYPE. Described from St John's Bluff, Florida. The lone specimen is badly preserved, but it is a species of *Mesopolobus* Westwood. The species of that genus need to be revised for North America.

DISTRIBUTION. Florida.

*Zatropis orontas* (Walker) **comb. n.**

*Pteromalus Orontas* Walker, 1847 : 396, ♀.

*Meraporus bruchivorus* Ashmead, 1893 : 161, ♀, ♂. **Syn. n.**

*Zatropis bruchivorus* (Ashmead) Crawford, 1921 : 171.

TYPE-MATERIAL. *Pteromalus orontas* Walker. There are three female specimens on card points in the BMNH collection, labelled 'B.M. Type Hym. 5. 766a, b, c' and 'Pteromalus Orontas Walker' by Waterhouse. I designate specimen 766b LECTOTYPE. Described from St John's Bluff, Florida. The specimens labelled 766a and 766c are not congeneric with the lectotype. This lectotype is the same as the species now being called *Zatropis bruchivorus* (Ashmead) in the North American literature.

*Meraporus bruchivorus* Ashmead. This was described from an unspecified number of female and male specimens from localities in Kansas, Indiana, and Iowa; there are now 6 ♀, 4 ♂ syntypes in the USNM. I designate a female specimen labelled 'Nov.; Riley Co., Ks., Marlatt; Meraporus bruchivorus ♀ Ashm.,' as LECTOTYPE.

DISTRIBUTION. Maryland south to Florida, west to Iowa, Kansas, Arizona and California; Sonora, Mexico.

BIOLOGY. Has been reared from *Acanthoscelides submuticus* (Sharp) and other bruchids.

*Norbanus pisius* Walker

*Norbanus pisius* Walker, 1843a : 160, ♀.

*Pteromalus Hybreae* Walker, 1847 : 397, ♀. **Syn. n.**

TYPE-MATERIAL. *Norbanus pisius* Walker. There is one female specimen on a card point, with broken parts mounted separately on a card, in the BMNH collection; it is labelled 'B.M. Type Hym. 5. 695; 1494a; St. John's Bluff' and 'Norbanus Pisius Walker' by Waterhouse. I designate it LECTOTYPE. This species is correctly identified in the USNM collection.

*Pteromalus hybreae* Walker. There is one badly broken female specimen on a card point in the BMNH collection, labelled 'B.M. Type Hym. 5. 764' and 'Pteromalus Hybreae Walker' by Waterhouse. I designate it LECTOTYPE.

Described from St John's Bluff, Florida; it is a *Norbanus*, and the remaining parts all agree with *pisius*.

DISTRIBUTION. Florida.

BIOLOGY. There is a specimen of *pisius* in the USNM collection from Clewiston, Florida, that was reared from *Euscepes porcellus* Boheman, a sweet potato weevil.

### *Lamprotatus salemus* (Walker)

*Lamprotatus salemus* Walker, 1843a : 156, ♀.

*Lamprotatus salemus* (Walker) Walker, 1846 : 32.

TYPE-MATERIAL. Only a female gaster and one leg (which may not belong together) remain in the BMNH collection, labelled 'B.M. Type Hym. 5. 819; 1489a; St. John's Bluff' and 'Lamprotatus salemus Walker' by Waterhouse. I have not designated this as lectotype, because a better specimen might eventually be found. This species should be unplaced, at least for the present.

DISTRIBUTION. Florida.

### *Zatropis timaea* (Walker) comb. n.

*Pteromalus timaea* Walker, 1847 : 396, ♀.

*Habrocytus timaea* (Walker) Peck, 1951 : 563.

TYPE-MATERIAL. There is one female specimen on a card point in the BMNH collection, labelled 'B. M. Type Hym. 5. 757' and 'Pteromalus Timaea Walker' by Waterhouse. I designate it LECTOTYPE. Described from St John's Bluff, Florida. This clearly is a species of *Zatropis* Crawford. There is in the USNM collection a specimen labelled '*Habrocytus timaea* Walk.' by A. A. Girault. That probably was the basis for the transfer of this species to *Habrocytus*, but Girault's identification was made without reference to Walker's type.

DISTRIBUTION. Florida.

### *Cyrtogaster trypherus* (Walker) comb. n.

*Lamprotatus trypherus* Walker, 1843a : 158, '♀' = ♂.

*Lamprotatus trypherus* (Walker) Walker, 1846 : 32.

*Cyrtogaster glasgowi* Crawford, 1914 : 36, ♀, ♂. **Syn. n.**

TYPE-MATERIAL. *Lamprotatus trypherus* Walker. There is one male specimen on a card point in the BMNH collection, labelled 'B.M. Type Hym. 5. 821; 1491a; St. John's Bluff' and 'Lamprotatus Trypherus Walker' by Waterhouse. I designate it LECTOTYPE. This specimen shows the distinctive characters of the male of the species currently being identified as *Cyrtogaster glasgowi* Crawford. It has enormous maxillae, the propodeum has lineolate-rugose sculpture, and the legs are bright tan in contrast with the dark metallic green body. No other known North American male pteromalid is similar.

*Cyrtogaster glasgowi* Crawford. This was described from two female and one male specimens from Urbana, Illinois; the designated female holotype is USNM No. 18246.

DISTRIBUTION. Delaware south to Florida west to Missouri and California.

BIOLOGY. Has been reared from the pupae of an ephydrid, *Brachydeutera argentata* (Walker), and of a *Drosophila* sp. It also is collected fairly often in alfalfa fields.

## EURYTOMIDAE

### *Eurytoma abatos* Walker

*Eurytoma abatos* Walker, 1843a : 152, ♀.

*Eurytoma crassineura* Ashmead, 1894 : 324, ♀, ♂. **Syn. n.**

TYPE-MATERIAL. *Eurytoma abatos* Walker. One female specimen, mounted on a card point, is in the BMNH collection, labelled 'B.M. Type Hym. 5. 579; 1484a; St. John's Bluff' and 'Eurytoma Abatos Walker' by Waterhouse, also 'abatos type' in Walker's hand. I designate it LECTOTYPE. This is a small, light coloured specimen of the species currently called *Eurytoma crassineura* Ashmead in the North American literature. I am indebted to Dr Bouček for sending me additional information about the type of *abatos* after I had returned to Washington.

*Eurytoma crassineura* Ashmead. Bugbee (1967 : 500) has designated a ♀ lectotype for this species, which was described from Morgantown, West Virginia. It is in the USNM, type no. 25508.

DISTRIBUTION. Occurs in southern Canada and throughout the United States.

BIOLOGY. A primary parasite of scolytid beetles.

### *Eurytoma cretheis* Walker

*Eurytoma cretheis* Walker, 1843a : 150, ♀.

TYPE-MATERIAL. A single female specimen, on a card point, is in the BMNH collection, labelled 'B.M. Type Hym. 5. 583; 1482a; St. John's Bluff' and 'Decatoma Cretheis Walker' by Waterhouse, and 'cretheis type' in Walker's hand. I designate it LECTOTYPE. The specimen is damaged. The head, antennae, both forewings, and one hindwing are missing. This fragmentary type cannot be placed to species.

DISTRIBUTION. Florida.

### *Eurytoma hecale* Walker

*Eurytoma hecale* Walker, 1843a : 151, ♀.

*Eurytoma auriceps* Walsh, 1870 : 299, ♀, ♂. **Syn. n.**

TYPE-MATERIAL. *Eurytoma hecale* Walker. There are two female specimens under this name in the BMNH collection, one of which is mounted on a card point,



and labelled 'B.M. Type Hym. 5. 580; 1483a; St. John's Bluff' and 'Eurytoma hecale Walker' by Waterhouse, also 'hecale type' in Walker's hand; I designate it LECTOTYPE. The other specimen is a different species, so labelled in 1955 by G. J. Kerrich. The lectotype is recognizably the same as the species currently being identified as *E. auriceps* Walsh in North America.

*Eurytoma auriceps* Walsh. The types of this species, described from Illinois, were destroyed in the Chicago fire of 1871 (Burks, 1953 : 16). Bugbee (1967 : 479) has recharacterized this species in conformity with the current identification of it; his material is in the USNM.

DISTRIBUTION. Eastern North America.

BIOLOGY. A parasite of cynipid gall makers on white oaks.

***Harmolita iphis* (Walker) comb. n.**

*Eurytoma iphis* Walker, 1846 : 85, ♀.

TYPE-MATERIAL. One female specimen, on a card point, is in the BMNH collection, labelled 'B.M. Type Hym. 5. 2288' and '1529a; St. John's Bluff' and 'Eurytoma Iphis Walker' by Waterhouse. I designate it LECTOTYPE.

DISTRIBUTION. Florida.

***Eurytomocharis pythes* (Walker) comb. n.**

*Eurytoma pythes* Walker, 1843a : 154, ♀.

TYPE-MATERIAL. One female specimen, mounted on a card point, is in the BMNH collection, labelled 'B.M. Type Hym. 5. 581; 1486a; St. John's Bluff' and 'Eurytoma Pythes Walker' by Waterhouse. I designate it LECTOTYPE.

DISTRIBUTION. Florida.

***Tenuipetiolus teredon* (Walker) comb. n.**

*Eurytoma teredon* Walker, 1843a : 153, ♀, ♂.

*Eurytoma albipes* Ashmead, 1881b : xxxi, ♀, ♂. **Syn. n.**

*Tenuipetiolus albipes* (Ashmead) Bugbee, 1951 : 37.

TYPE-MATERIAL. *Eurytoma teredon* Walker. There are one female and three male specimens, all on card points, in the BMNH collection. I designate the female as LECTOTYPE. It is labelled 'B.M. Type Hym. 5. 582' and 'Cotype; 1485e; St. John's Bluff' and 'Eurytoma Teredon Walker' by Waterhouse. It should be noted that there is considerable antigeny in this species, but these quite dissimilar males and females are conspecific and were correctly associated by Walker. This species is the distinctive one Bugbee (1951 : 37) selected as type-species for his genus *Tenuipetiolus*.

*Eurytoma albipes* Ashmead. This species was described from an unspecified number of female and male specimens. At present only one broken female specimen

of it can be found in the USNM collection. I designate it LECTOTYPE. It is labelled 'Jacksonville, Fla.; Collection Ashmead; Type no. 2822 U.S.N.M.; Eurytoma albipes Ashm.'

DISTRIBUTION. New York south to Florida, west to Illinois, Missouri, Texas.

BIOLOGY. A parasite of cecidomyiid and cynipid gall makers.

## CHALCIDIDAE

### *Brachymeria alexinus* (Walker) **comb. n.**

*Perilampus Alexinus* Walker, 1846 : 89.

TYPE-MATERIAL. There are two male specimens, each mounted on a small pin on a card, in the BMNH collection. One bears a label, added long after Walker's time, which states in Latin 'True Chalcis, without hind legs—Biró'. This specimen, also labelled 'B.M. Type Hym. 5. 2289', is designated LECTOTYPE. The second specimen also lacking the hind legs, is labelled 'Brachymeria sp., G. J. Kerrich, 1958.' Species described from Georgia.

REMARKS. It is obvious that the hind legs, with their enlarged femora, were missing from these specimens at the time Walker described *alexinus*. Had they been present, he most certainly would not have placed the species in *Perilampus*. The original description, however, has never sounded very much like that of a perilampid; my guess had been that *alexinus* was some sort of eurytomid. When I saw the types, however, I recognized them as a well known *Brachymeria* secondary parasite of grasshoppers, one of Holarctic distribution and one long known in the world literature as *Brachymeria coloradensis* (Cresson, 1872). If necessary, I shall request the International Commission to suppress Walker's name for this species in favour of Cresson's name. The name *coloradensis* has been used in manuals or revisions published in Japan (Habu, 1960 : 159; 1962 : 27), Russia (Nikolskaya, 1960 : 85), Czechoslovakia (Bouček, 1957 : 210), France (Steffan, 1959 : 42) and North America (Burks, 1960 : 250).

### *Haltichella onatas* (Walker)

*Hockeria onatas* Walker, 1843a : 146, ♀.

*Haltichella onatas* (Walker) Walker, 1846 : 7.

*Conura Onatas* (Walker) Walker, 1871 : 41.

*Haltichella longicornis* Ashmead, 1887a : 185, ♀. **Syn. n.**

TYPE-MATERIAL. *Hockeria onatas* Walker. There are three female specimens, mounted on card points, in the BMNH collection. One is labelled 'B.M. Type Hym. 5. 553; 1477a; St. John's Bluff' and 'Hockeria Onatas Walker' by Waterhouse, and I designate it LECTOTYPE. One of the other two, labelled '1477b' is fragmentary; the other, labelled '1477e', is virtually intact. This is the species currently being identified in North America as *Haltichella longicornis* Ashmead.

*Haltichella longicornis* Ashmead. Described from one female specimen from Jacksonville, Florida, USNM Holotype no. 20666.

DISTRIBUTION. South-eastern United States.

BIOLOGY. A primary parasite of moths of the families Oecophoridae and Gelechiidae.

### *Spilochalcis side* (Walker)

*Smiera side* Walker, 1843a : 145, ♀.

*Smicra torvina* Cresson, 1872 : 40. ♀.

*Spilochalcis side* (Walker) Burks, 1940 : 336.

TYPE-MATERIAL. One female specimen, mounted on a card, is in the BMNH collection, labelled 'B.M. Hym. 5. 481; 1476a; St. John's Bluff' and 'Smicra Side Walker' by Waterhouse, also 'Side' in Walker's hand. I designate it LECTOTYPE.

DISTRIBUTION. Throughout southern Canada and United States.

BIOLOGY. Has a lengthy host list; see Peck (1963 : 888).

### *Spilochalcis transitiva* (Walker)

*Smiera transitiva* Walker, 1862 : 371, ♀.

*Spilochalcis transitiva* (Walker) Howard, 1897 : 130.

TYPE-MATERIAL. One female specimen mounted on a small pin on a card is in the BMNH collection. It is labelled 'B.M. Type Hym. 5. 537; 43-15; North America' and 'Smiera transitiva Walker' by Waterhouse, also 'Tetrasmicra transitiva' in an unknown hand. I designate it LECTOTYPE. The current application of the name is correct. Described from Eastern Florida.

DISTRIBUTION. Georgia, Florida, Texas, Arizona; Mexico, Central America; Cuba, Grenada, Jamaica.

BIOLOGY. A primary parasite of the pierid butterfly, *Catopsilia eubule* (L.).

### *Haltichella xanticles* (Walker)

*Hockeria xanticles* Walker, 1843a : 147, ♀.

*Haltichella xanticles* (Walker) Walker, 1846 : 7.

*Conura Xanticles* (Walker) Walker, 1871 : 41.

*Haltichella americana* Howard, 1885 : 36, ♀. **Syn. n.**

TYPE-MATERIAL. *Hockeria xanticles* Walker. There are three female specimens on card points in the BMNH collection. One is labelled 'B.M. Type Hym. 5. 554; 1478a; St. John's Bluff' and 'Hockeria Xanticles Walker' by Waterhouse. Another is labelled, 'Cotype; 1478b'; the third is labelled 'Cotype; 1478c.' The specimen labelled '1478c' is designated LECTOTYPE. This species is being correctly identified at present in North American literature, and Howard's *americana* is the same.

*Haltichella americana* Howard. Described from two female syntypes which are, unfortunately, not conspecific. One, labelled 'Washington, D. C., 2. 7; Type

No. 2627 U. S. N. M.; *Haltichella americana* How. ms.', is the one on which the name *americana* has always been based. I designate it LECTOTYPE. The other syntype has the same labels, plus a 'Schwarz Coll.' label. It is a specimen of *Haltichella onatas* (Walker).

DISTRIBUTION. Quebec south to Florida west to Saskatchewan and Texas.

BIOLOGY. This is a primary parasite of small moths of the families Olethreutidae, Coleophoridae, Lyonetiidae. It also has been reared as a secondary parasite, emerging from the cocoons of *Apanteles*.

## LEUCOSPIDIDAE

### *Leucospis affinis* Say

*Leucospis affinis* Say, 1824 : 326, ♀, ♂.

*Leucospis Canadensis* Walker, 1860 : 17, ♂. [Synonymized by Cresson, 1872 : 32.]

TYPE-MATERIAL. *Leucospis affinis* Say. Type lost, but the identity of this species has long been accepted in North American literature on the basis of the original description and the redescription of Cresson (1872 : 32).

*Leucospis canadensis* Walker. There is one male specimen mounted on a small pin on a card in the BMNH collection. It is labelled 'B.M. Type Hym. 5. 91; 59. 13 ♂; Canada; Pres. by W. S. M. D'Urban; 75 C. H.; 56. 1859-130' and 'Leucospis canadensis Walker' by Waterhouse, also 'Leucospis affinis Say ♂, J. Waterston det.' I designate it LECTOTYPE. Both antennae are broken off beyond the pedicel, but otherwise this is an intact male specimen of the form currently being identified as *affinis affinis* Say in eastern North America. There is a Floridian subspecies that differs.

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